

WHAT IS CLAIMED IS:

1. An information recording medium on which information is recorded or from which recorded information is produced by irradiating with an energy beam moving on/along a track relative to said medium,

wherein at a first location and a second location both of which are located at different locations on said medium, data concerning a maximum linear velocity ( $V_{1\max}$ ) and a minimum linear velocity ( $V_{1\min}$ ) at said first location and a maximum linear velocity ( $V_{2\max}$ ) and a minimum linear velocity ( $V_{2\min}$ ) at said second location, are recorded at a predetermined location on said medium.

2. An information recording medium according to claim 1,

wherein said predetermined location on said medium lies in a control data zone in which data concerning said medium are recorded.

3. An information recording medium according to claim 1,

wherein at least one of undermentioned conditions is satisfied:

$$r_1 < r_2, \text{ and}$$

$$V_{1\max} < V_{2\max} \text{ or}$$

$$V_{1\min} < V_{2\min}$$

where  $r_1$  represents a radial distance of said first location from a center of said medium and

$r_2$  represents a radial distance of said

second location from said center of said medium.

4. An information recording medium according to claim 3,

wherein conditions that  $r_1 < r_2$  and that  $V_{1\min}/r_1 \leq V_{2\max}/r_2$  are satisfied,

where  $r_1$  represents a radial distance of said first location from a center of said medium and

$r_2$  represents a radial distance of said second location from said center of said medium.

5. An information recording medium according to claim 3,

wherein condition that  $V_{1\max} < V_{2\min}$  is additionally satisfied.

6. An information recording medium according to claim 1,

wherein at least some of recording/reproducing conditions corresponding to said maximum linear velocities ( $V_{\max}$ ) and said minimum linear velocities ( $V_{\min}$ ) at said first and second locations, respectively, are recorded at said predetermined location.

7. A method of controlling an information recording medium on which information is recorded or from which recorded information is reproduced by irradiating with an energy beam moving on/along a track relative to said medium, at a first location and a second location both of which are located at different radial locations on said medium, wherein data

concerning a maximum linear velocity ( $V_{lmax}$ ) and a minimum linear velocity ( $V_{lmin}$ ) at said first location and a maximum linear velocity ( $V_{2max}$ ) and a minimum linear velocity ( $V_{2min}$ ) at said second location, are recorded at a predetermined location on said medium,

said method comprising the steps of:

reproducing said data in precedence to recording or reproduction of the information;

controlling the relative moving speed of said energy beam such that the linear velocity at said first location lies between said maximum linear velocity ( $V_{lmax}$ ) and said minimum linear velocity ( $V_{lmin}$ ); and

controlling the relative moving speed of said energy beam such that the linear velocity at said second location lies between said maximum linear velocity ( $V_{lmax}$ ) and said minimum linear velocity ( $V_{2min}$ ).

8. An information recording medium control method according to claim 7,

wherein control of said relative moving speed of said energy beam is realized by controlling a rotation speed of said medium.

9. An information recording medium control method according to claim 8,

wherein a method of controlling the rotation speed for information recording is performed by one of a control method selected from a group consisting of a constant angular velocity (CAV) control with a rotation

speed (rpm) being constant, a constant linear velocity (CLV) control with a linear velocity being constant and a combination of said constant angular velocity (CAV) control and said constant linear velocity (CLV) control, and

wherein the control method to be actually employed is determined on the basis of result of reproduction of said data.

10. An information recording medium control method according to claim 7,

wherein the linear velocities at other locations than said first and second locations are determined through a linear interpolation between said minimum linear velocity ( $V_{1min}$ ) at said first location and said minimum linear velocity ( $V_{2min}$ ) at said second location and between said maximum linear velocity ( $V_{1max}$ ) at said first location and said maximum linear velocity ( $V_{2max}$ ) at said second location.

11. An information recording medium control method according to claim 7,

wherein said information recording medium includes a reflective layer, thickness of which is gradually decreased from a radially inner side of said medium toward a radially outer side of said medium, and

wherein a constant angular velocity (CAV) control is adopted for controlling a rotation of said medium.

12. An information recording medium control

method according to claim 7,

wherein a rotation of said medium is controlled through a constant angular velocity (CAV) control at a radially inner zone of said medium while being controlled through a constant linear velocity (CLV) control at a radially outer zone of said medium.

13. An information recording medium control method according to claim 7,

wherein said data are set as initial values with information of previously recorded control data, and optimum conditions are determined by a learning procedure.

14. An information recording medium control method according to claim 7,

wherein said data are determined on the basis of jitter.

15. An information recording method of recording information on an information recording medium by irradiating with an energy beam moving on/along a track relative to said medium,

said method comprising the steps of:

reading data concerning a maximum linear velocity ( $V_{1max}$ ) and a minimum linear velocity ( $V_{1min}$ ) at a first location on said medium and a maximum linear velocity ( $V_{2max}$ ) and a minimum linear velocity ( $V_{2min}$ ) at a second location on said medium, at said first and second locations both of which are located at different locations on said medium, and said data being recorded

at a predetermined location on said medium; and  
recording the information on said medium by  
controlling a relative speed between said medium and  
said energy beam on the basis of said data.

16. An information reproducing method of  
reproducing information from an information recording  
medium recorded the information by irradiating with an  
energy beam moving on/along a track relative to said  
medium,

said method comprising the steps of:  
reading data concerning a maximum linear  
velocity ( $V_{1max}$ ) and a minimum linear velocity ( $V_{1min}$ )  
at a first location on said medium and a maximum linear  
velocity ( $V_{2max}$ ) and a minimum linear velocity ( $V_{2min}$ )  
at a second location on said medium, at said first and  
second locations both of which are located at different  
locations on said medium, and said data being recorded  
at a predetermined location on said medium; and

reproducing the information recorded on said  
medium by controlling a relative speed between said  
medium and said energy beam on the basis of said data.